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EXAMINER

NGUYEN, SIMON

ART UNIT PAPER NUMBER

2618

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,321

Applicant(s)

JENSEN, HENRIK T.

Examiner

SIMON D. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 20-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 20-29 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Martinez (6,639,509).

Regarding claim 1, Martinez discloses a transmitter (fig.2), comprising: a digital processor(32) for modulates digital data to produce a baseband signal and converts to a digitized IF signal ; a DAC (34) for receiving the digitized IF signal to covert to a continuous waveform IF signal; a filter(52) for receiving the continuous waveform IF signal to produce an IF signal; and a translational loop that receives the filtered IF signal and converts to RF tranşmit signal (fig.2).

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Opas et al. (6,928,122).

Regarding claim 1, Opas discloses a transmitter (fig.2), comprising: a digital processor (28) for modulates digital data to produce a baseband signal and converts to

a digitized IF signal; a DAC (34) for receiving the digitized IF signal to convert to a continuous waveform IF signal; a filter(36,38) for receiving the continuous waveform IF signal to produce an IF signal and a translational loop (24) for filtering the IF signal to a RF signal (fig.2).

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by DeChamps et al. (2005/0152463).

Regarding claim 1, DeChamps discloses a transmitter (figs.1), comprising: a digital processor (OFDM MOD, DSP) for modulates digital data to produce a baseband signal and converts to a digitized IF signal; DAC (20, 21) for receiving the digitized IF signal to convert to a continuous waveform IF signal; filter(22, 23) for receiving the continuous waveform IF signal to produce an IF signal and a translational loop (6) for filtering the IF signal to a RF signal (fig.1).

5. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Yang (6,504,862).

Regarding claim 1, Yang discloses a transmitter (fig.1), comprising: a digital processor (28) for modulates digital data to produce a baseband signal and converts to a digitized IF signal; a DAC (34) for receiving the digitized IF signal to convert to a continuous waveform IF signal; a filter(36,38) for receiving the continuous waveform IF signal to produce an IF signal and a translational loop (24) for filtering the IF signal to a RF signal (fig.2).

6. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Baker et al. (6,606,483).

Regarding claim 1, Baker discloses a transmitter (fig.2), comprising: a digital processor (202) for modulates digital data to produce a baseband signal and converts to a digitized IF signal; a DAC (204) for receiving the digitized IF signal to covert to a continuous waveform IF signal; a filter(205) for receiving the continuous waveform IF signal to produce an IF signal and a loop filter (210) for filtering the IF signal to a RF signal (figs. 2, column 5 line 32 to column 6 line 12).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-4 rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (6,606,483) in view of Abdelgany et al. (20030193923).

Regarding claim 2, Baker further discloses the loop comprising a phase detector (230), a reference signal (232), a feedback loop (210). It should be noted that a phase locked loop having a charge pump, a loop filter, and an oscillator are known in the art. However, Baker does not specifically mention so.

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Abdelgany discloses a multi-mode multi-band transceiver, (figs. 3-9) having a translation loop, wherein the loop comprising a charge pump, a loop filter, and an oscillator (paragraph 61, 94, 98, 103, 110). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Baker, modified by Abdelgany in order to remove noise.

Regarding claims 3-4, it should be noted that a divider for dividing the oscillator is known to those skilled in the art. Abdelgany further discloses the transceiver comprising a mixer and a filter for down converting (figs. 3-6).

9. Claims 5-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (6,606,483) in view of Abdelgany et al. (20030193923), and further in view of Dartois (6,289,056).

Regarding claims 5-9, the modified Baker does not specifically disclose the IF signal is equal to 26 MHz, a sampling rate that is a multiple of 26 MHz, the sample rate of the DSP is equal to 104 MHz.

Dartois discloses a multi-mode GSM/DCS system, comprising the sampling rate of an ADC is 26 MHz with a multiplier by four or eight, wherein the sampling rate 26 MHz multiplies by 4 = 104 MHz or multiplies by 8 = 208 MHz (column 9 line 27 to column 10 line 35, column 11 lines 1-5, fig. 4). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have modified Baker, modified by Dartois in order to meet requirement for a bit rate and to a channel spacing of each application.

Allowable Subject Matter

10. Claims 20-29 are allowed.

Regarding claim 20, the prior art of record fails to teach a DSP generating a digital data at a 338 MHz sample rate.

Regarding claims 21-29, these claims are allowed as being dependent upon independent claim that has been allowed.

11. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 10, the prior art of record does not specifically disclose a digital processor generating a digital signal at a 338 MHz sample rate.

Response to Arguments

12. Applicant's arguments filed 9/11/06 related to claims 1-9 have been fully considered but they are not persuasive.

a) the double patenting rejection of claims 1-10, 20-29 is withdrawn.

b) Baker discloses that the digital processor 202 outputted an I, Q signal 203, wherein the I, Q signal is an IF signal, the I, Q signal converts to analog signal by the D/A 204, filters by the filter 205; and up-converts by quadrature modulator 220 to a RF signal. Therefore, the rejection of claim 1 based on Baker stand.

c) The prior art of record issued to DeChamps (2005/0152463), Opas et al. (6,928,122), Martinez (6,639,509), and Yang (6,504,862), each teaches a transmitter having a DSP for modulating a digital signal to produce an IF signal, wherein the IF signal is converted from a digital to analog, the analog signal is filtered prior to convert to a RF signal by a translational loop. These cited references have limitations as claimed independent claim 1.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (571) 272-

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7894. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban, can be reached on (571) 272-7899.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

600 Dulany, Alexandria, VA 22314

Or faxed to:

(571) 273-8300 (for formal communications intended for entry)

Hand-delivered response should be brought to Customer Service Window located at the Randolph Building, 401 Dulany, Alexandria, VA, 22314.

Simon Nguyen

October 10, 2006

A handwritten signature in black ink, appearing to read 'S. Nguyen'.

SIMON NGUYEN
PRIMARY EXAMINER